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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

CRAIG, DWIN M

ART UNIT PAPER NUMBER

2123

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/410,160

Applicant(s)

BELL ET AL.

Examiner

Dwin M Craig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. In view of the Reply Brief filed on 2-24-2005, PROSECUTION IS HEREBY REOPENED. New Grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Response to Arguments

2. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, 4-15 and 17-20** are rejected under 35 U.S.C. 102(a) as being anticipated by **Mikawa et al. U.S. Patent 5,828,673**.

3.1 As regards Independent **Claims 1, 12 and 13** and using Independent **Claim 1** as an example, the *Mikawa et al.* reference teaches,

A method of verifying a repair of a design comprising the steps of:

(A) generating an enumeration of a plurality of fuses in said design; (Figure 1 items 201, 202, 203, 204, 205 and 206 teach the generation of a list and a list is the functional equivalent of and enumeration, see also Col. 5 lines 54-67 and Col. 6 lines 1-59),

(B) compiling data for each of said fuses, wherein said data comprises simulation path data; (Figure 1 items 207, 208, 211, 212, 213, 214, 215 all into item 218 as the figure teaches the data about the fuses is compiled from the previous step and then integrated into the simulation path, see also, Col. 6 lines 14-67 and Col. 7 lines 1-9), and

(C) simulating said design with at least on of said fuses programmed for said repair to verify said repair (Figure 1 items 218, 220 and 221 and all of Figure 9 also see Col. 2 lines 39-49 note that remedying an error bit is the same as performing a repair).

3.2 As regards dependent **Claims 4 and 15** the *Mikawa et al.* reference teaches *layout coordinates and paths or physical location data (Figures 4 and 5).*

3.3 As regards dependent **Claims 5-11, 17-20** the *Mikawa et al.* reference teaches *generating a fuse report, with location coordinates and (Figure 1 item 221, Figure 2 item ST11, Figure 5, Figure 6, Col. 7 lines 61-67, Col. 8 lines 1-7).*

3.4 As regards dependent **Claim 14** the *Mikawa et al.* reference teaches a schematic (Figure 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. **Claims 2, 3 and 16** are rejected under 35 USC § 103(a) as being unpatentable over **Mikawa et al. U.S. Patent 5,828,673** in view of **Sample et al. U.S. Patent 5,841,967**.
- 4.1 As regards independent claims 1 and 12 see section 3.1 of this Office Action.
- 4.2 As regards dependent claim 14 see section 3.4 of this Office Action.
- 4.3 As regards dependent **Claims 2, 3 and 16** the *Mikawa et al.* reference does not expressly disclose verilog path data from a simulation.

The *Sample et al.* reference discloses verilog path data from a simulation (**Figure 11 Item 112, Col. 1 lines 55-63, Col.1 line 64**), as well as the need to blow fuses (**Col. 1 lines 38-47**).

It would have been obvious, to one of ordinary skill in the art, at the time the invention was made to have combined the teachings of the *Mikawa et al.* reference with the verilog

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simulation methods of the *Sample et al.* reference because, of the advanced simulation and emulation methodologies provided by modern Hardware Description Languages such as Verilog and VHDL (*Sample et al.* Col. 2 lines 15-67).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Examiner has cited various patents that disclose the method of repairing ASIC using fuses. The Examiner has also cited Patents disclosing the use of the Verilog hardware description language for verifying a circuit design in a simulation environment.

5.1 PROSECUTION IS HEREBY REOPENED. **Claims 1-20** are rejected. This Office Action is **Non-Final**.

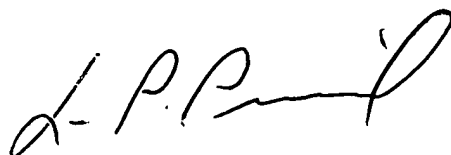
5.2 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwin M Craig whose telephone number is (571) 272-3710. The examiner can normally be reached on 10:00 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P Picard can be reached on (571)272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DMC

A handwritten signature in black ink, appearing to read "L. P. Picard", written in a cursive style.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100